

AMENDMENTS TO THE CLAIMS

Claims 1-14 (Canceled)

15. (New) A semiconductor laser driving device comprising:

a semiconductor laser;

a photodetecting element for receiving a part of light emitted from the semiconductor laser and converting the part of light into an electric signal corresponding to a light amount;

a laser driving circuit for inputting a driving signal into the semiconductor laser in such a manner that an average value of the electric signal coincides with a given target value;

a high-frequency superimposing circuit for superimposing a high-frequency signal over the driving signal; and

a high-frequency superimposing control section for controlling an amplitude of the high-frequency signal,

wherein the high-frequency superimposing control section controls the amplitude in such a manner that a peak-to-average ratio that is a ratio of a peak value of the electric signal with respect to the average value of the electric signal does not increase above a given first reference value.

16. (New) A semiconductor laser driving device according to claim 15, wherein the high-frequency superimposing control section further controls the amplitude in such a manner that the peak-to-average ratio does not decrease below a given second reference value equal to or lower than the first reference value.

17. (New) A semiconductor laser driving device according to claim 15, further comprising a peak detecting circuit for receiving the electric signal from the photodetecting element and for detecting the peak value of the electric signal,

wherein the high-frequency superimposing control section calculates the peak-to-average ratio based on the peak value detected by the peak detecting circuit.

18. (New) A semiconductor laser driving device according to claim 15, further comprising:
a temperature sensor for measuring a temperature of the semiconductor laser; and

a storing section for storing data indicative of a relationship of the average value, the temperature, the amplitude, and the peak-to-average ratio,

wherein the high-frequency superimposing control section reads out the data from the storing section, so as to control the amplitude based on the data, the average value, and the temperature.

19. (New) A semiconductor laser driving device according to claim 15, wherein the high-frequency superimposing control section controls the amplitude in such a manner that the amplitude decreases as the temperature of the semiconductor laser increases.

20. (New) A semiconductor laser driving device according to claim 15, wherein the high-frequency superimposing control section controls the amplitude in such a manner that, the amplitude decreases as the average value increases if the average value is less than a given threshold value, whereas the amplitude increases as the average value increases if the average value is larger than the threshold value.

21. (New) A semiconductor laser driving device according to claim 15, wherein the high-frequency superimposing control section comprises a linear speed acquiring section for acquiring a linear speed of an optical recording medium from which information is to be reproduced by use of the emitted light, and wherein the high-frequency superimposing control section controls the amplitude in such a manner that the peak-to-average ratio is proportional to $\sqrt{V/V_0}$ at a standard linear speed V_0 which is a standard value of the linear speed V .

22. (New) A semiconductor laser driving device according to claim 15, wherein the high-frequency superimposing control section comprises a data acquiring section for acquiring the first reference value by reading out, from the optical recording medium from which information is

to be reproduced by use of the emitted light and on which an allowance value of the peak value of the emitted light is recorded, the recorded allowance value.

23. (New) A semiconductor laser driving device according to claim 15, wherein the high-frequency superimposing control section comprises a test executing section for judging the first reference value by recording a test pattern into a test recording area of the optical recording medium from which information is to be reproduced by use of the emitted light and which has the test recording area and by reading the test pattern while varying the amplitude.

24. (New) A semiconductor laser driving device according to claim 23, wherein the high-frequency superimposing control section further comprises:

a reference value recording section for recording the first reference value judged by the test executing section into the optical recording medium; and

a data acquiring section for reading out the recorded first reference value from the optical recording medium on which the first reference value is recorded.

25. (New) A semiconductor laser driving device according to claim 15, wherein a wavelength of the light emitted from the semiconductor laser is $390\text{nm} < \lambda < 420\text{nm}$.

26. (New) An optical head device comprising the semiconductor laser driving device of claim 15.

27. (New) An optical information processing device comprising the optical head device of claim 26.

28. (New) An optical recording medium from which information is to be reproduced by the semiconductor laser driving device of claim 22 and which records the allowance value.